Type: Poster Presentation

Final Abstract Number: 50.007
Session: Antibiotics II
Date: Friday, April 4, 2014
Time: 12:45-14:15
Room: Ballroom

Appropriateness of antibiotics prescribed in patients with bacteremia

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Background: Prescribing of appropriate antibiotics is particularly important in patients with bacteremia. The purpose of this work was to evaluate the appropriateness of antibiotic therapy prescribed to patients with bacteremia in our tertiary 300-bed hospital for the period 2010-2012.

Methods & Materials: Blood-culture diagnostic was performed in Bactec 9050, BD, USA; positive bottles were investigated through Gram stain (immediately reported to the clinicians) and routinely cultured on blood-, MacConkey-, Sabouraux- agar; for anaerobes – on Schaedler-, for fastidious organisms – on chocolate- agar. Biochemical identification of pathogens was with API, BioMerieux, France, and Crystal, BD. Antimicrobial susceptibility tests were performed by disk diffusion method according to the CLSI, 2010. Empirical antibiotic prescription should be upon the institutional guidelines. An audit was performed to evaluate the appropriateness of antibiotic therapy.

Results: Blood-cultures varied from 1700 to 1100 sets/year. Patients with bacteremia accounted for 200/100000 bed-days. The ratio ambulatory-: hospital- cases was 52%: 48%. Secondary bacteremia was more frequent than primary. The most common isolates were S. aureus, E. coli and other Enterobacteriaceae. The rate of MRSA varied from 14% to 40% and of Enterobacteriaceae - ESBL-producers – from 28 to 43%. Analysis of antibiotic prescriptions revealed that for almost half of patients with problematic antibiotic resistant pathogens the prescribed antibiotics were not appropriate.

Conclusion: More precisely the risk factors for resistant pathogens should be evaluated to prescribe early appropriate antibiotics; introduction of fast diagnostic and susceptibility testing methods will further improve the prognosis of patients with bacteremia.

http://dx.doi.org/10.1016/j.ijid.2014.03.851

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Successful antibiotic stewardship: a realistic and attainable goal

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Background: The hospital has 214 beds including 15 Bed ICU and HIGH CARE UNITS and a ten bed NNICU. Increasing trends of resistance coupled with a decline in the development of new antibiotics has left infectious disease treatment on the brink of a return to the pre-antibiotic era. A recent study by Paruk et al., revealed that inappropriate prescription practices in South Africa are as high as 60% in the private sector and 40% in the public sector. Antibiotic stewardship was re-introduced to the hospital after approximately six months of no stewardship activity taking place. An multi-disciplinary antibiotic stewardship committee was formed and meets monthly.

Methods & Materials: The focus of the daily ward rounds performed by the ward pharmacist were >7 days of treatment; >14 days of treatment, loading dose not given, hang-time, double antimicrobial cover. Interventions made in the above categories were noted and recorded on the Antibiotic Stewardship Intervention template. The data obtained from ward rounds was presented at the antibiotic stewardship, infection prevention and clinical governance meetings to encourage compliance to the stewardship guidelines.

Results: The interventions made thus far have yielded improvements in the following categories: hang time, >4 antimicrobials, DDD per 100 bed days, double antimicrobial cover, duration >7days, surgical.

Conclusion: Antibiotic Stewardship is a team effort and requires buy in from hospital staff at all levels and most importantly hospital management and treating physicians. Antibiotic stewardship can be used as a tool to build better relationships with other stakeholders and therefore improve patient care and service delivery.

Implementing Antibiotic Stewardship can seem like an enormous feat initially, however, it can be achieved quickly and effectively provided one builds constructive and productive relationships with all members of the healthcare team. Antibiotic Stewardship is a great opportunity for pharmacists to become more involved in patient care, thus providing the opportunity to improve their clinical skills and knowledge base. Antibiotic stewardship should not be limited to just the facility in which it is started, the general practitioners and pharmacists from surrounding areas can also be included to promote rational and safe prescription of antibiotics.

http://dx.doi.org/10.1016/j.ijid.2014.03.852